

REMARKS

Claims 1-23 were pending of which Claims 1-8 and 22 were rejected and Claims 9-16 were allowed. Claim 9 has been amended and Claims 17-21 and 23 have been cancelled.

Paragraph 0043 of the specification has been corrected where two numbers were inadvertently juxtaposed. The juxtaposition can be clearly identified from Fig. 3 and, thus, no new matter is added.

Originally filed Claims 16-24 have been renumbered 15-23 per the Examiner's request in the Office Action dated December 8, 2004.

Claim Objections

Claim 9 was objected to for containing the informality of "suing" which should be "using". Appropriate correction has been made.

Claim Rejections – 35 U.S.C. §102

Claims 1, 4-6 and 22 were rejected under 35 U.S.C. §102(b) as being anticipated by Hennessey et al. (5,696,835) ("Hennessey"). Applicant respectfully traverses.

Independent Claim 1 is related to a "method for forming a recipe for de-skewing wafers" that includes "learning a first pattern at a de-skew site on a first wafer layer" ... and "learning a second pattern at the de-skew site on a second wafer layer".

The Examiner cited Fig. 4 in Hennessey as disclosing "learning a first pattern at a de-skew site on a first layer (step 56 ...)". The Examiner also cited Fig. 4 as disclosing "learning a second pattern at the de-skew site on a second wafer layer (step 68 ...)".

Fig. 4 of Hennessey, however, does not disclose "forming a recipe for de-skewing wafers" but instead is related to a "align[ing] a wafer in a fabrication tool". Col. 4, lines 37-39. Hennessey uses a single target alignment pattern "for a particular device to be worked on at a given time". Col. 4, lines 41-42, see step 66. In other words, the pattern learned by Hennessey is for a particular layer of a wafer. Hennessey uses the learned pattern, which is converted to "grammar template primitives", to align the wafer. Col. 4, lines 46-49, and see steps 66, 68, 76, 78 and 80 of Fig. 4.

Contrary to the Examiner's statement, Hennessey does not disclose both "leaning a first pattern" and "learning a second pattern" as recited in Claim 1. Step 68 in Fig. 4 does not

disclose “learning a second pattern”, but instead discloses determining whether the “differences between image primitives and grammar template [is] less than a predetermined similarity threshold”. Determining whether the difference between the imaged pattern (image primitives) and the learned pattern (grammar template) is less than a threshold, as disclosed in step 68 of Hennessey, is not “learning **a second pattern** at the de-skew site **on a second wafer layer**”.

Accordingly, Applicants respectfully submit that Claim 1 is patentable over Hennessey. Reconsideration and withdrawal of this rejection is respectfully requested. Claims 4-6 depend from Claim 1 and are, therefore, likewise patentable.

Independent Claim 22 recites “forming a recipe for de-skewing wafers” that includes “learning a first pattern at a de-skew site on a first wafer layer” and “determining if the first pattern matches a second pattern at the de-skew site on a second wafer layer”.

As discussed above, Hennessey does not disclose “forming a recipe for de-skewing wafers” but instead is related to a “align[ing] a wafer in a fabrication tool”. Col. 4, lines 37-39. Moreover, Hennessey discloses using a single target alignment pattern “for a particular device to be worked on at a given time”. Col. 4, lines 41-42. Thus, the pattern learned by Hennessey is for a particular layer of a wafer. Hennessey then discloses imaging the wafer (step 62) and comparing the image to the learned pattern (step 66 “compare image primitives to grammar template primitives in symbolic space”).

Hennessey fails to teach or suggest “learning a first pattern at a de-skew site on a first wafer layer” and “determining if the first pattern matches a second pattern at the de-skew site on a second wafer layer”.

Accordingly, Applicants respectfully submit that Claim 22 is patentable over Hennessey. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 1 was rejected under 35 U.S.C. §102(e) as being anticipated by Michael et al. (6,240,218) (“Michael”). Applicant respectfully traverses.

The Examiner cited Figs. 11 and 14 of Michael as disclosing “forming a recipe for de-skewing wafer”. The Examiner stated that Michael discloses “learning a first pattern at a de-skew site on a first wafer layer (figure 11 …)”, and “learning a second pattern at the de-skew site on a second wafer layer (figure 14 …)”.

(col. 5, lines 48-50) but does not disclose “learning a second pattern at the de-skew site on a second wafer layer” as recited in Claim 1.

Fig. 14 of Michael is not related to “forming a recipe for de-skewing wafers” but addresses de-skewing the wafer. For example, at col. 7, lines 34-38, Michael states “the goal of the run-time phase is to find the translational and rotational alignment parameters (ΔX and θ) of an object, such as a semiconductor wafer....” In Fig. 14 at step 150, Michael discloses acquiring “at least one run-time image of the object”. That image is processed in steps 152, 154, and 156 and is compared to the template image from the training phase in step 158. Thus, Fig 14 in Michael does not disclose “learning a second pattern at the de-skew site on a second wafer layer”.

Thus, Applicant respectfully submits that Claim 1 is patentable over Michael. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections – 35 U.S.C. §103

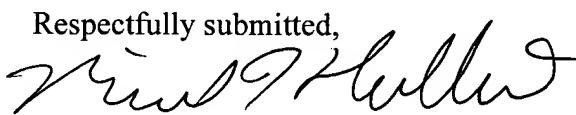
Claims 2, 3, and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Michael in view of Garakani et al. (6,240,208) (“Garakani”). Applicant respectfully traverses.

Claims 2, 3, and 7 depend from Claim 1. Garakani fails to make up for the deficiencies of Michael. Accordingly, Claims 2, 3, and 7 are allowable for at least the same reasons as Claim 1.

Claim 9 had been amended and Claims 17-21 and 23 have been cancelled leaving Claims 1-16 and 22 pending, of which Claims 9-16 were indicated as being allowable. For the above reasons, Applicants respectfully request allowance of Claims 1-16 and 22. Should the Examiner have any questions concerning this response, the Examiner is invited to call the undersigned at (408) 982-8202.

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